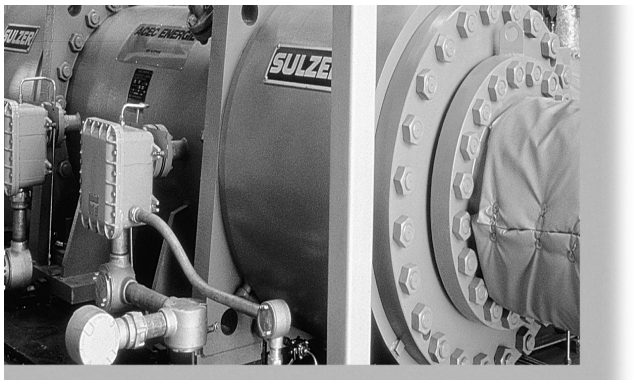
Electrification of Gas Pipeline and Storage Compressors: Strategic Load Growth and Business Development Opportunities



Electric motor driven compressors are a very small portion of the gas pipeline compressor fleet

Electric driven compressors provide improvement in efficiency, operations, and environmental pollution for gas pipelines, while providing strategic load growth for electric utilities – a win-win situation.

INTRODUCTION

Many existing gas driven compressors on gas pipelines were installed in the 1940's and '50's and have high maintenance and operating costs, as well as short useful lives. Implementation of the Clean Air Act Amendments is causing pipelines to face substantial capital outlays to meet NO_x requirements in ozone non-attainment areas wherever gas drive compressors are used.

In addition there is a need for new compression where there is transmission market growth -- into the northeast USA from Alberta (through the Mid West) and the Gulf of Mexico, and into California from Canada.

There is also as much compression in storage service as in transmission, about 22 million horsepower. Electric drives offer economic, environmental, and operability advantages for storage just as they do for pipelines, and provide market growth possibilities for utilities.

However despite the advantages of electric compression, pipelines and storage operators often consider gas drive compression as the first option.

OPPORTUNITY

Opportunities for electric compression reside in replacement of older compressors, re-powering of existing stations, new greenfield sites, and new pipelines. Previous market assessment projects have identified potential for electrification of 300 to 1,800 MW for various utilities. Typical compressor stations utilize 10,000 – 40,000 hp (or 8-32 MW) of compression energy.

To help clients grow the efficient utilization of electric compression and to identify new business opportunities with gas pipeline and storage companies, EPRI's Chemicals, Petroleum, & Natural Gas Target offers a portfolio of market analysis, marketing and sales and management support.

Market analysis includes understanding the location, characteristics, and operating costs for existing compressors; mapping transmission lines available to the pipeline; and assessing options (operating cost profiles, gas dispatch options, gas vs. electric price parity, project potential, economics, etc.).

EPRI's staff and network of industry experts will support clients in working with their gas pipeline and storage companies by helping "make the connections and the sale".

PROPOSED PROGRAM

The scope of each project will be tailored to meet the specific needs and interests of the participant. Examples of market intelligence and support that can be provided include:

- Location and Characterization of Existing Compressors
- Assessment of Opportunities
- Identifying equipment, Engineering , and Construction partners
- Identifying Key Decision Makers
- Understanding Pipeline Company Strategies
- Helping Make the Sale

COSTS

Costs are dependent on the complexity of pipelines in the utility's service area, and the project options selected. Costs can vary between $40K to $200k

FURTHER INFORMATION

K. R. "Ammi" Amarnath
Manager, Process Industries
EPRI
3412 Hillview Avenue
Palo Alto, CA 94303
Phone: 650/855-2548
Fax: 650/855-8574
e- mail: aamarnat@epri.com

CONTACT INFORMATION For more information or to order additional copies of this document, contact the EPRI Customer Assistance Center (EPRICAC) at 800-313-3774 or askepri@epri.com.

PO-113349